

WHAT IS CLAIMED IS:

1. A separator for an electric double-layer capacitor comprising:

a glass fiber;

a polyester fiber; and

5 an aramid fiber.

2. A separator for an electric double-layer capacitor according to claim 1 which separator contains said glass fiber of not less than 10 mass percent and not more than 40 mass percent.

3. A separator for an electric double-layer capacitor according to claim 1  
10 which separator contains said aramid fiber of not less than 40 mass percent and not more than 60 mass percent.

4. A separator for an electric double-layer capacitor according to claim 2 which separator contains said aramid fiber of not less than 40 mass percent and not more than 60 mass percent.

5. A separator for an electric double-layer capacitor according to claim 1  
15 which separator contains said polyester fiber of not less than 10 mass percent and not more than 30 mass percent.

6. A separator for an electric double-layer capacitor according to claim 2  
20 which separator contains said polyester fiber of not less than 10 mass percent and not more than 30 mass percent.

7. A separator for an electric double-layer capacitor according to claim 3 which separator contains said polyester fiber of not less than 10 mass percent and not more than 30 mass percent.

8. A separator for an electric double-layer capacitor according to claim 4  
25 which separator contains said polyester fiber of not less than 10 mass percent and not more than 30 mass percent.

9. A separator for an electric double-layer capacitor according to claim 1 which separator comprises an acryl resin and a cation fixing reinforcement agent as a binder for binding said glass fiber, said polyester fiber, and said aramid fiber, wherein paper making is performed.

5 10. A separator for an electric double-layer capacitor according to claim 2 which separator comprises an acryl resin and a cation fixing reinforcement agent as a binder for binding said glass fiber, said polyester fiber, and said aramid fiber, wherein paper making is performed.

10 11. A separator for an electric double-layer capacitor according to claim 3 which separator comprises an acryl resin and a cation fixing reinforcement agent as a binder for binding said glass fiber, said polyester fiber, and said aramid fiber, wherein paper making is performed.

15 12. A separator for an electric double-layer capacitor according to claim 4 which separator comprises an acryl resin and a cation fixing reinforcement agent as a binder for binding said glass fiber, said polyester fiber, and said aramid fiber, wherein paper making is performed.

20 13. A separator for an electric double-layer capacitor according to claim 5 which separator comprises an acryl resin and a cation fixing reinforcement agent as a binder for binding said glass fiber, said polyester fiber, and said aramid fiber, wherein paper making is performed.

14. A separator for an electric double-layer capacitor according to claim 6 which separator comprises an acryl resin and a cation fixing reinforcement agent as a binder for binding said glass fiber, said polyester fiber, and said aramid fiber, wherein paper making is performed.

25 15. A separator for an electric double-layer capacitor according to claim 7 which separator comprises an acryl resin and a cation fixing reinforcement

agent as a binder for binding said glass fiber, said polyester fiber, and said aramid fiber, wherein paper making is performed.

16. A separator for an electric double-layer capacitor according to claim 8 which separator comprises an acryl resin and a cation fixing reinforcement agent as a binder for binding said glass fiber, said polyester fiber, and said aramid fiber, wherein paper making is performed.

17. A separator for an electric double-layer capacitor according to claim 1, wherein a surface density is not less than  $10 \text{ g/m}^2$  and not more than  $30 \text{ g/m}^2$  and a thickness is not less than  $20 \mu\text{m}$  and not more than  $60 \mu\text{m}$ .

18. A separator for an electric double-layer capacitor according to claim 2, wherein a surface density is not less than  $10 \text{ g/m}^2$  and not more than  $30 \text{ g/m}^2$  and a thickness is not less than  $20 \mu\text{m}$  and not more than  $60 \mu\text{m}$ .

19. A separator for an electric double-layer capacitor according to claim 3, wherein a surface density is not less than  $10 \text{ g/m}^2$  and not more than  $30 \text{ g/m}^2$  and a thickness is not less than  $20 \mu\text{m}$  and not more than  $60 \mu\text{m}$ .

20. A separator for an electric double-layer capacitor according to claim 4, wherein a surface density is not less than  $10 \text{ g/m}^2$  and not more than  $30 \text{ g/m}^2$  and a thickness is not less than  $20 \mu\text{m}$  and not more than  $60 \mu\text{m}$ .

21. A separator for an electric double-layer capacitor according to claim 5, wherein a surface density is not less than  $10 \text{ g/m}^2$  and not more than  $30 \text{ g/m}^2$  and a thickness is not less than  $20 \mu\text{m}$  and not more than  $60 \mu\text{m}$ .

22. A separator for an electric double-layer capacitor according to claim 6, wherein a surface density is not less than  $10 \text{ g/m}^2$  and not more than  $30 \text{ g/m}^2$  and a thickness is not less than  $20 \mu\text{m}$  and not more than  $60 \mu\text{m}$ .

23. A separator for an electric double-layer capacitor according to claim 7, wherein a surface density is not less than  $10 \text{ g/m}^2$  and not more than  $30 \text{ g/m}^2$

and a thickness is not less than 20  $\mu$ m and not more than 60  $\mu$ m.

24. A separator for an electric double-layer capacitor according to claim 8, wherein a surface density is not less than 10 g/m<sup>2</sup> and not more than 30 g/m<sup>2</sup> and a thickness is not less than 20  $\mu$ m and not more than 60  $\mu$ m.

5 25. A separator for an electric double-layer capacitor according to claim 9, wherein a surface density is not less than 10 g/m<sup>2</sup> and not more than 30 g/m<sup>2</sup> and a thickness is not less than 20  $\mu$ m and not more than 60  $\mu$ m.

26. A separator for an electric double-layer capacitor according to claim 10, wherein a surface density is not less than 10 g/m<sup>2</sup> and not more than 30 g/m<sup>2</sup> and a thickness is not less than 20  $\mu$ m and not more than 60  $\mu$ m.

10 27. A separator for an electric double-layer capacitor according to claim 11, wherein a surface density is not less than 10 g/m<sup>2</sup> and not more than 30 g/m<sup>2</sup> and a thickness is not less than 20  $\mu$ m and not more than 60  $\mu$ m.

28. A separator for an electric double-layer capacitor according to claim 12, wherein a surface density is not less than 10 g/m<sup>2</sup> and not more than 30 g/m<sup>2</sup> and a thickness is not less than 20  $\mu$ m and not more than 60  $\mu$ m.

15 29. A separator for an electric double-layer capacitor according to claim 13, wherein a surface density is not less than 10 g/m<sup>2</sup> and not more than 30 g/m<sup>2</sup> and a thickness is not less than 20  $\mu$ m and not more than 60  $\mu$ m.

20 30. A separator for an electric double-layer capacitor according to claim 14, wherein a surface density is not less than 10 g/m<sup>2</sup> and not more than 30 g/m<sup>2</sup> and a thickness is not less than 20  $\mu$ m and not more than 60  $\mu$ m.

31. A separator for an electric double-layer capacitor according to claim 15, wherein a surface density is not less than 10 g/m<sup>2</sup> and not more than 30 g/m<sup>2</sup> and a thickness is not less than 20  $\mu$ m and not more than 60  $\mu$ m.

25 32. A separator for an electric double-layer capacitor according to claim 16,

wherein a surface density is not less than 10 g/m<sup>2</sup> and not more than 30 g/m<sup>2</sup> and a thickness is not less than 20 μm and not more than 60 μm.

33. A separator for an electric double-layer capacitor comprising:

a fiber; and

an inorganic compound for forming hydrosol that is made to adhere to a surface of said fiber.

34. A separator for an electric double-layer capacitor according to claim 33 which separator contains said inorganic compound of not less than 1 mass percent and not more than 20 mass percent.

35. A separator for an electric double-layer capacitor according to claim 33, wherein said inorganic compound comprises a particulate inorganic compound and a particle diameter of said particulate inorganic compound is not less than 1 nm and not more than 500 nm.

36. A separator for an electric double-layer capacitor according to claim 34, wherein said inorganic compound comprises a particulate inorganic compound and a particle diameter of said particulate inorganic compound is not less than 1 nm and not more than 500 nm.

37. A separator for an electric double-layer capacitor according to claim 33, wherein said fiber comprises at least a glass fiber, and wherein total of said inorganic compound and said glass fiber is not less than 10 mass percent and not more than 50 mass percent.

38. A separator for an electric double-layer capacitor according to claim 34, wherein said fiber comprises at least a glass fiber, and wherein total of said inorganic compound and said glass fiber is not less than 10 mass percent and not more than 50 mass percent.

39. A separator for an electric double-layer capacitor according to claim 35,

wherein said fiber comprises at least a glass fiber, and wherein total of said inorganic compound and said glass fiber is not less than 10 mass percent and not more than 50 mass percent.

40. A separator for an electric double-layer capacitor according to claim 36,  
5 wherein said fiber comprises at least a glass fiber, and wherein total of said inorganic compound and said glass fiber is not less than 10 mass percent and not more than 50 mass percent.

41. An electric double-layer capacitor comprising a separator therefor according to claim 1.

10 42. An electric double-layer capacitor comprising a separator therefor according to claim 2.

43. An electric double-layer capacitor comprising a separator therefor according to claim 3.

15 44. An electric double-layer capacitor comprising a separator therefor according to claim 4.

45. An electric double-layer capacitor comprising a separator therefor according to claim 5.

46. An electric double-layer capacitor comprising a separator therefor according to claim 6.

20 47. An electric double-layer capacitor comprising a separator therefor according to claim 7.

48. An electric double-layer capacitor comprising a separator therefor according to claim 8.

25 49. An electric double-layer capacitor comprising a separator therefor according to claim 9.

50. An electric double-layer capacitor comprising a separator therefor

according to claim 10.

51. An electric double-layer capacitor comprising a separator therefor according to claim 11.

52. An electric double-layer capacitor comprising a separator therefor according to claim 12.

53. An electric double-layer capacitor comprising a separator therefor according to claim 13.

54. An electric double-layer capacitor comprising a separator therefor according to claim 14.

55. An electric double-layer capacitor comprising a separator therefor according to claim 15.

56. An electric double-layer capacitor comprising a separator therefor according to claim 16.

57. An electric double-layer capacitor comprising a separator therefor according to claim 17.

58. An electric double-layer capacitor comprising a separator therefor according to claim 18.

59. An electric double-layer capacitor comprising a separator therefor according to claim 19.

60. An electric double-layer capacitor comprising a separator therefor according to claim 20.

61. An electric double-layer capacitor comprising a separator therefor according to claim 21.

62. An electric double-layer capacitor comprising a separator therefor according to claim 22.

63. An electric double-layer capacitor comprising a separator therefor

according to claim 23.

64. An electric double-layer capacitor comprising a separator therefor according to claim 24.

5 65. An electric double-layer capacitor comprising a separator therefor according to claim 25.

66. An electric double-layer capacitor comprising a separator therefor according to claim 26.

67. An electric double-layer capacitor comprising a separator therefor according to claim 27.

10 68. An electric double-layer capacitor comprising a separator therefor according to claim 28.

69. An electric double-layer capacitor comprising a separator therefor according to claim 29.

15 70. An electric double-layer capacitor comprising a separator therefor according to claim 30.

71. An electric double-layer capacitor comprising a separator therefor according to claim 31.

72. An electric double-layer capacitor comprising a separator therefor according to claim 32.

20 73. An electric double-layer capacitor comprising a separator therefor according to claim 33.

74. An electric double-layer capacitor comprising a separator therefor according to claim 34.

25 75. An electric double-layer capacitor comprising a separator therefor according to claim 35.

76. An electric double-layer capacitor comprising a separator therefor



according to claim 36.

77. An electric double-layer capacitor comprising a separator therefor according to claim 37.

78. An electric double-layer capacitor comprising a separator therefor according to claim 38.

79. An electric double-layer capacitor comprising a separator therefor according to claim.

80. An electric double-layer capacitor comprising a separator therefor according to claim 40.

81. A manufacturing method of a separator for an electric double-layer capacitor, the method comprising;

a mixing process for mixing a fiber and an inorganic compound that forms hydrosol and is dispersed; and

a paper making process for making paper from said mixed fiber and inorganic compound.